



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
LAND AND EMERGENCY
MANAGEMENT

April 20, 2021

Jim Christiansen
Vice President/Sr. Project Director
Carlson Environmental Consultants, PC

Re: Response to March 3, 2021 Letter: "Request for Determination; Lamar County Solid Waste Authority, Lamar County, Georgia; Proposed Pyrolysis, Gas Processing, & Leachate Evaporation System"

Dear Mr. Christiansen:

Thank you for submitting your March 3, 2021 letter on behalf of Lamar County Solid Waste Authority (LCRSWA) to the U.S. Environmental Protection Agency (EPA) to evaluate its non-hazardous secondary materials (NHSM) self-determination for the proposed pyrolysis, gas processing, and leachate evaporation system using municipal solid waste (MSW) as a feedstock.

EPA has reviewed your request. We need additional information in order to fully evaluate your self-determination. Please provide information on the following areas in your response:

1. Contaminant Comparison Criterion

EPA requests more information on the contaminant comparison portion of the legitimacy criteria, as explained below.

Contaminant Comparison:

241.3(d)(1)(iii): The non-hazardous secondary material must contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s) that the combustion unit is designed to burn. In determining which traditional fuel(s) a unit is designed to burn, persons may choose a traditional fuel that can be or is burned in the particular type of combustion unit, whether or not the unit is permitted to burn that traditional fuel. In comparing contaminants between traditional fuel(s) and a non-hazardous secondary material, persons can use data for traditional fuel contaminant levels compiled from national surveys, as well as contaminant level data from the specific traditional fuel being replaced. To account for natural variability in contaminant levels, persons can use the full range of traditional fuel contaminant levels, provided such comparisons also consider variability in non-hazardous secondary material contaminant levels. Such comparisons are to be based on a direct comparison of the contaminant levels in both the non-hazardous secondary material and traditional fuel(s) prior to combustion.

EPA requests more information on contaminant levels in the syngas compared to contaminant levels in traditional fuels that the combustion unit is designed to burn. Your letter included information on the

sulfur content of the syngas, but not specific information on other contaminants present in the syngas. Contaminants include most pollutants listed in CAA section 112(b) and 129(a)(4). Cl, F, N, and S should also be included when NHSMs are burned as a fuel and combustion could form HCl, HF, NO_x, or SO₂.

When providing contaminant comparison data to EPA, it is helpful to include:

- Measurement units.
- Number of samples and sampling methods used.
- Analytical methods used. Methods must measure the total contaminant concentration, not a fraction thereof (e.g., not only leachable or organic fractions).
- Quality assurance/quality control procedures used, such as calibration data, duplicate analyses (duplicate samples and laboratory control samples), and blank correction data, as appropriate.

EPA also requests information on the traditional fuel being replaced. To meet the contaminant comparison criterion, the NHSM must contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s) that the combustion unit is designed to burn. EPA requests information on which traditional fuel the NHSM will be compared to, if the combustion unit is designed to burn that traditional fuel, and the contaminant levels present in the traditional fuel.

2. Make Gas Flare and Other Waste Products Generated

EPA requests more information on the make gas flare and the other waste products generated by the process. Please provide information on the contaminants that will be present in the make gas immediately prior to flaring, and how often the make gas will be flared. In addition, please provide more information on the char produced by the pyrolysis process, any waste products generated by the control device used for the second gas clean-up, and any waste products generated by the sulfur scavenging system in the third clean-up process. Please provide information on how the waste products are managed, including how they are contained to prevent releases into the environment.

3. Pyrolysis

EPA requests more information on the pyrolysis process. The pyrolysis units are described in your letter as “electrically heating the material with little or no oxygen available to support combustion.” Your letter also stated pyrolysis is taking place in three carbonizers. EPA is requesting more information on the heating system and design of the carbonizers.

EPA would like to receive information on the reaction parameters such as temperature and pressure maintained in the carbonizers through the entire duration of the pyrolysis process. EPA would like to obtain details on the control system that is employed to ensure no-oxygen or a substoichiometric level of oxygen is maintained inside the carbonizers, including the amount and partial pressure of oxygen present in the carbonizers.

It would be helpful if you could provide a process flow diagram (PFD) and /or process instrumentation diagram (P&ID) of the entire system. Please let EPA know if any of these information qualify to be CBI (confidential business information). All CBI would be handled following the CBI protocol as implemented by EPA.

4. Processing and Management of the As-Received MSW

EPA understands that the as-received MSW will undergo removal of recyclable and inert materials and resizing. EPA requests more information on the processing and management of the as-received MSW. Please provide information on whether the production of the MSW feedstock from the as-received MSW will destroy contaminants, improve the fuel characteristics, or improve the as-fired energy content. In addition, please provide information on the time frame the as-received MSW is stored and how it is managed, including how it is contained to prevent releases into the environment.

Please contact myself or Phoebe O'Connor on my staff at oconnor.phoebe@epa.gov should you have any questions or concerns. We look forward to your response.

Sincerely,

Jessica Young, Branch Chief
Recycling and Generator Branch
Materials Recovery and Waste Management Division
Office of Resource Conservation and Recovery

cc: Mr. Johnny Poore, Lamar County Regional Solid Waste Authority
Mr. Eric Cornwell, Georgia Environmental Protection Division
Ms. Jennifer Vogel, EPA Region 4, Land, Chemicals and Redevelopment Division
Ms. Katy Lusky, EPA Region 4, Air and Radiation Division